

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

1. (Currently Amended) A method for protecting a data service in a Metropolitan Area Transport Network, comprising:
- establishing a work path for transporting a service between a source node and a work destination node of the service in the Metropolitan Area Transport Network (MATN), wherein the source node is a node in the MATN through which the service enters the MATN, the work destination node is a node via which the service in the work path leaves the MATN;
 - setting a node other than the work destination node as a protection destination node;
 - establishing a protection path between the source node and the protection destination node for protecting the service in the work path, wherein the protection destination node is a node via which the service in the protection path leaves the MATN;
 - the source node detecting a failure state of:
 - (a) a first path component comprising links of the work path and the protection path, and
 - (b) a failure state of a node in the links of the work path and the protection path first path component;
 - the work destination node and the protection destination node each detecting respectively the a failure state of a second path component comprising the links connecting themselves the work destination node and the protection destination node to [[a]] at least one data device that is connected to the data network, and if there is the failure, notifying the source node; and
 - switching the data service in the work path to the protection path by the source node upon one or more of the following conditions: (a) when the failure state of the link of the work path or the failure state of [[a]] the node in the link is detected, and [[or]] (b) a failure state notice of the work destination node is received.

2. (Original) The method according to Claim 1, wherein, the step of switching comprises:
one protection path providing a protection for multiple work paths; and
the work path with the highest priority being switched to the protection path when the
multiple work paths are out of work at the same time.
3. (Original) The method according to Claim 1, further comprising:
when the work path runs well, the source node transporting extra data services via the
protection path, and when the work path is switched to the protection path,
stopping the extra data services.
4. (Original) The method according to Claim 1, further comprising:
when the source node detects that the failure of the work path has been eliminated or
the source node receives a notice that the failure of the work path has been
eliminated, switching the services from the protection path to the work path.
5. (Original) The method according to any of Claim 1, further comprising:
after the source node switches the work path to the protection path, the source node
setting the protection path as the current work path, and setting the work path
before the switching as the protection path.
6. (Original) The method according to Claim 1, wherein the work destination node
and the protection destination node are connected to the same data device.
7. (Original) The method according to Claim 2, wherein the work destination node
and the protection destination node are connected to the same data device.
8. (Original) The method according to Claim 3, wherein the work destination node
and the protection destination node are connected to the same data device.
9. (Original) The method according to Claim 4, wherein the work destination node
and the protection destination node are connected to the same data device.

10. (Original) The method according to Claim 5, wherein the work destination node and the protection destination node are connected to the same data device.

11. (Original) The method according to Claim 1, wherein the work destination node and the protection destination node are connected to different data devices which are connected with each other.

12. (Original) The method according to Claim 2, wherein the work destination node and the protection destination node are connected to different data devices which are connected with each other.

13. (Original) The method according to Claim 3, wherein the work destination node and the protection destination node are connected to different data devices which are connected with each other.

14. (Original) The method according to Claim 4, wherein the work destination node and the protection destination node are connected to different data devices which are connected with each other.

15. (Original) The method according to Claim 5, wherein the work destination node and the protection destination node are connected to different data devices which are connected with each other.

16. (Original) The method according to Claim 6, wherein, the step of notifying the source node comprises:

the work destination node and the protection destination node notifying the source node by means of signaling after detecting a failure state of the link; and

further comprising:

the work destination node and the protection destination node notifying the source node by means of signaling after detecting a recovery from a failure state.

17. (Original) The method according to Claim 11, wherein, the step of notifying the source node comprises:

the work destination node and the protection destination node notifying the source node by means of signaling after detecting an failure state of the link; and further comprising:

the work destination node and the protection destination node notifying the source node by means of signaling after detecting a recovery from a failure state.

18. (Original) The method according to Claim 16, wherein, the work destination node and the protection destination node adopt an confirmation mechanism when notifying the source node by means of signaling, and keep on sending the failure state information to the source node until receiving the confirmation information from the source node.

19. (Original) The method according to Claim 17, wherein, the work destination node and the protection destination node adopt an confirmation mechanism when notifying the source node by means of signaling, and keep on sending the failure state information to the source node until receiving the confirmation information from the source node.

20. (Original) The method according to Claim 16, wherein the signaling comprises: Ethernet Operation Administrative and Maintenance (OAM) signaling and Multiprotocol Label Switching (MPLS) OAM signaling.

21. (Original) The method according to Claim 17, wherein the signaling comprises: Ethernet Operation Administrative and Maintenance (OAM) signaling and Multiprotocol Label Switching (MPLS) OAM signaling.